

## **Community development at Kjeller airfield based on principles for ecological democracy**

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This paper is a summary of the theoretical background and reflection for our master thesis in landscape architecture that was submitted in May 2016. The thesis is a design project with the goal of transforming a decommissioned airfield at Kjeller in Norway to become part of the public green and social infrastructure in the municipality. It shows an example of how the use of existing tools in the planning system, combined with the development of new tools to measure different conditions in a participation process, can bring new uses into the green structure.

### **Introduction**

Today Oslo is amongst the fastest growing urban regions in Europe. To deal with the rapid growth, national government have applied the strategy of densification. The main goal for the densification strategy is to develop cities and towns in a sustainable direction (Guttu and Thoren 1996). However, which densities are most appropriate and how to achieve them, is not so clear (Hester 1995). But even if the densification strategy is not very specific, we are aware of the importance of limiting the extent of land in which city spreads to maintain functioning ecosystems and regional biological diversity (Hester 2006).

Lillestrøm in Skedsmo municipality is one of the towns in the Oslo region that is going to take a large share of this growth. Our project site, Kjeller airport, is located between the two communities of Lillestrøm and Kjeller. Today Kjeller is a military airport. In 2015 it was decided that the airport will shut down its military activity when the F-16 aircraft is phased out by 2023. This creates an opportunity for local development in the area.

Rapid population growth creates a conflict between the need for densification and the need to preserve natural areas within the building zone. This requires new focus on green structure planning. The way we think about green structures in Norway today does not open up for public initiatives. This can cause some areas within the green structure to be perceived as passive and monofunctional. One opportunity to get new initiatives into the green structure areas is to use the tools provided by the Planning and Building Act (PBA) of 2008, which facilitates participation. One challenge is the lack of tools to measure various conditions in a participatory process.

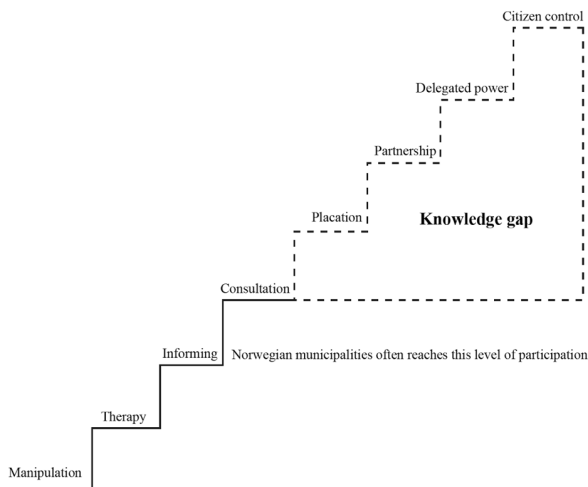
## Background

The norwegian PBA does facilitate, and even demand, participation. In § 5-1 the law states that:

*“The municipality has a particular responsibility to ensure the active participation of groups that require special arrangements, including children and adolescents. Groups and interests that are not able to participate directly shall be ensured good opportunities for participation in other ways” (2008) (author's own translation)*

In practice this means that the central authorities in Norway gives the local municipality a legal tool to actively involve the community in the planning and design of their local environment. However, it is not clear what “active participation” actually implies. Today there is a tendency that in lack of tools to conduct active participation, the municipalities often do the minimum effort. The result is typically that the most active participation in a municipal planning process is a public meeting where many interest groups are not present or represented.

Arnstein’s ladder of participation can be used as a tool to measure the level of involvement in a participation process that is typical for norwegian municipalities. In Norway municipalities often reach the third level of the ladder, the informing level, which makes a huge gap between the level of informing and the highest level of participation ladder represented by citizen control.



**Figure 1. Arnstein’s ladder of participation (based on Arnstein, 1969)**

## **Ecological democracy**

A more direct involvement from local community led us to the theory of ecological democracy. Randolph T. Hester, in his book *Design for Ecological Democracy* (2006), presents a vision of this kinship that empowers people toward positive environmental change. In it he describes the ecological democracy term as:

*“[...] a government by the people emphasizing direct, hands-on involvement. Actions are guided by understanding natural processes and social relationships within our locality and the larger environmental context. This causes us to creatively reassess individual needs, happiness, and long-term community goods in the places we inhabit. Ecological democracy can change the form that our cities take creating new urban ecology. In turn, the form of our cities, from the shape of regional watersheds to a bench at a post office, can help build ecological democracy” (2006).*

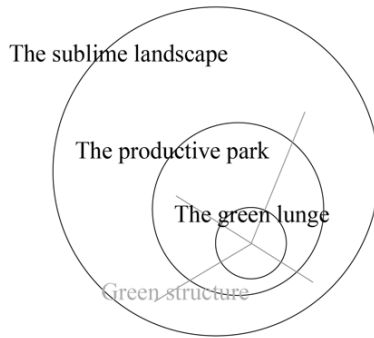
Today we are unprepared - emotionally and intellectually, as individuals and communities - to take the complex and comprehensive actions necessary for sustainability and resilience (Hester 1995). We as designers must offer choices for people and also educate them about the consequences of these choices. We also support Hester's idea of creating places that enable us to act from the basis of sensing, understanding and empathizing, as private individuals and as communities are crucial for making resilient cities.

Ecological democracy can help us to have a better understanding of the natural systems of a place and other forms such as: food production, limits of tolerance, translating ecological and democratic thinking into city form making. Knowledge about this forms will help us make our cities intelligible to us (Hester 2006).

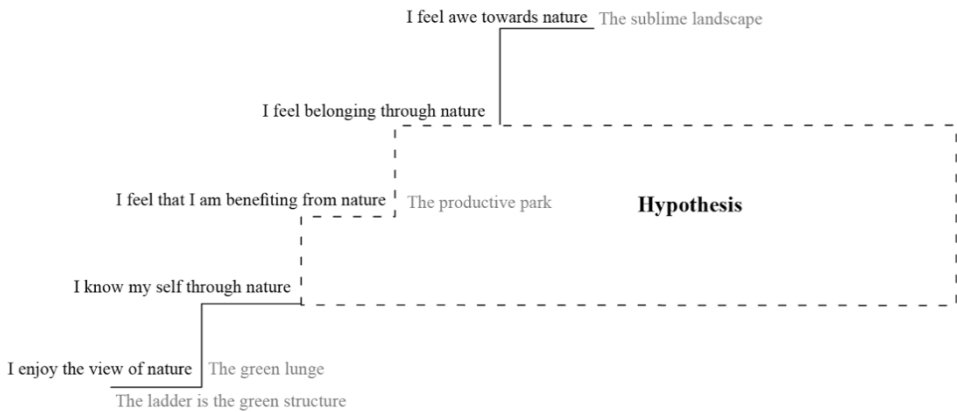
## **The biophilia ladder**

Ecological democracy emphasizes the importance of the relationship between human and nature. This is a phenomena that also is described through the hypothesis of biophilia. Biophilia claims that there is an instinctive bond between human and nature.

To conduct targeted participation in our thesis project, we have developed a tool, the biophilia ladder, to measure the relationship people have with nature and the types of greens needed to climb all the steps of the ladder. The biophilia ladder is based on the theory of ecological democracy and the notion of biophilia. In our thesis we used the biophilia ladder to transform the result of the physical analysis into an hypothesis that we verify through the participation process.



**Figure 2. Nature forms needed to reach all the levels of Biophilia ladder**



**Figure 3. Our proposal for biophilia ladder**

**Goal and research question**

The goal of our thesis is to show good practice for local development based on design principles of ecological democracy. Our research question is based on our goal is: How can design and participation be used as methods to achieve good community development at Kjeller airport? We are using design as method to transform Kjeller Airfield into an integrated green and social infrastructure that serves as the main public landscape between its surrounding communities in Skedsmo municipality. This encompasses the blue and green restoration of the former natural landscape of wetlands and new establishment of an edible forest and a educational loop to connect the surrounding communities.

## Methods

The methods used to answer our research question is design, analysis and participation. In the project it has been carried out an analysis in two parts. The physical analysis revealed that according to our biophilia ladder and the types of nature required to complete it, there is a lack of one type of nature within the city; the productive park. This led us to the hypothesis that the population in the area lack some level of relationship with nature. We wanted to test this hypothesis through multiple workshops with a class at the local school.

## Participation

The goal with the participation process was to explore the ecological literacy of the place and find out whether the youth are missing some levels of relationship with nature or not.



**Figure 4: Results from Sacred places exercise**

The participation process informed us about several sacred places in the area and how the areas around the airfield is being used today. The results also uncovered a lack of sense of benefit of nature and a lack of sense of belonging through nature. Our hypothesis was confirmed.

## **Concept**

Based on the results of the physical analysis and the participation process, a concept was developed - Kjeller Knowledge Park. This means that during the development of a new district at the airport site, a large part of green space should be preserved as green structure for recreation, production and learning. Building should be limited to existing infrastructure. Thereafter two main strategies were developed. One strategy aim at linking two sacred landscapes, Nitelva and Leira. This is done through reestablishing historic wetlands and productive forest. The second strategy is about linking the communities of Lillestrøm and Kjeller through a knowledge path, which is a pedestrian and bicycle friendly connection that unites all the formal knowledge arenas in the two communities through the Knowledge Park.

## **Discussion**

Our conclusion is that a physical framework as a result of an active and targeted participation process can lay a solid foundation for community development at Kjeller. This presupposes that the participation process continues, not only when the project starts and the regulation plan is developed, but also in the future when the municipal zoning plan is renewed.

To achieve a meaningful participation process takes time. Since we had a limited amount of time to carry out this project, we have not had the opportunity to achieve the highest levels of participation. We have neither had the time to engage other relevant groups of users in the participation process, which is necessary to create contact between different actors.

What we want to point at with this paper is the opportunity for the municipality that we find in the existing tools in the norwegian planning system. This opportunity is to use the planning programme to conduct a participation process that links the actors with ideas and the actors with the economical capacity to make it happen. In this way it is possible to highlight potentials and prevent and solve conflicts that would not have been possible without the participation.

We also see the need to develop new tools to measure different conditions in a participation process, like the biophilia ladder. This will make it easier to draw up hypotheses and conduct targeted participation where the result can inform the design.

We believe that this thesis shows an example of how norwegian municipalities can solve the complex challenges tied to local development, if both the

participation ladder and the biophilia ladder is completed. In this way citizens will be able to understand, feel the responsibility and care for nature required to take a step in a sustainable direction, both as an individuals and as society.

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